## REMARKS/ARGUMENTS

Claims 1, 2, and 5-17 are pending in the present application. Claims 1, 2, 5, 13, 14, and 15 have been amended; claims 3, 4, and 18-25 have been canceled. Applicant has canceled claims 18-25 from further consideration in this application. Applicant is <u>not</u> conceding that the subject matter encompassed by claims 18-25 is not patentable over the art cited by the Examiner. Claims 18-25 were canceled in this Amendment solely to facilitate expeditious prosecution of the remaining claims. Applicant respectfully reserves the right to pursue additional claims, including the subject matter encompassed by claims 18-25, as presented prior to this Amendment in one or more continuing applications. Reconsideration of the claims is respectfully requested.

### I.     35 U.S.C. § 102, Anticipation

The Examiner has rejected claims 1, 7, 8, 10, 11, 16-18 and 22 under 35 U.S.C. § 102 as being anticipated by *Miller et al*, <u>Method and Apparatus for Dynamically Selecting Functionally Equivalent Web Services Through a Single Autonomic Proxy</u>, U.S. Patent Publication No. 2005/0198206, September 8, 2005 (hereinafter *Miller*). This rejection is respectfully traversed.

In rejecting claim 1, the Examiner states:

> For claim 1, Miller teaches: A method in a data processing system to identify a Web service in a registry using a registry lookup naming and directory provider ([0042], lines 1-7), the method comprising the steps of: detecting a request from a service requester to identify the Web service in the registry ([0040], lines 1-5); responsive to detecting the request, determining if a first element is present in a registry file ([0040], lines 7-14); responsive to determining the first element is present in the registry file, locating a second element in the registry file based on the first element in the registry file ([0040], lines 7-14]); and locating an endpoint location of the Web service based on the second element in the registry file ([0042], lines 8-13).

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). In this case, each and every feature of the presently claimed invention is not identically shown in the cited reference, arranged as they are in the claims.

Claim 1, as amended, is as follows:

1.       A method in a data processing system to identify a Web service in a registry using a registry lookup naming and directory provider, the method comprising steps of:
detecting a request from a service requester to identify the Web service in the registry;
responsive to detecting the request, determining if a first element is present in a registry file;
responsive to determining the first element is present in the registry file, locating a second element in the registry file based on the first element in the registry file;
locating an endpoint location of the Web service based on the second element in the registry file;
retrieving an instance of the Web service based on the endpoint location; and
returning the instance of the Web service to the service requester.


**I.A.       Miller Fails to Disclose Retrieving an Instance of the Web Service Based on the Endpoint Location**

*Miller* fails to anticipate claim 1 because *Miller* does not disclose "retrieving an instance of the Web service based on the endpoint location" as in amended claim 1.

In rejecting claim 1, the Examiner cites to *Miller* at paragraphs [0040] and [0042], which state:

> When client **410** sends a request to locate a desired Web service, the request is received by autonomic proxy **402**. In response to receiving this request, autonomic proxy **402** may query UDDI registry **412** using standard query patterns described in the UDDI Programmers API (UDDI **12**). UDDI registry **412** stores information regarding Web services that may be utilized by clients. Since the UDDI standard supports organizing information according to category, UDDI registry **412** can be searched by category to retrieve entries that provide descriptive information (name, summary description, download location, price, vendor, license terms, etc.) about available software applications in a desired category (e.g., word processors, accounting software, etc.). Information retrieved from UDDI registry **412** is used by autonomic proxy **402** to identify candidate Web services for a client request.
> In addition, UDDI registry **450** may comprise policy information and a service description. UDDI utilizes a construct called tModels, which represent metadata describing how the Web service behaves, what conventions the Web service follows, or with what standards or services the Web service is compliant. For example, when a service interface is published in the UDDI registry using WSDL, the service interface is referred to as wsdlSpec tModel. A wsdlSpec tModel comprises a uniform resource locator (URL) pointer that points to the corresponding WSDL service interface definition document containing the technical specifications required to interact with the Web service endpoints.

The cited portion discloses an autonomic proxy receiving a request to locate a Web service, and querying a UDDI registry to search information according to category. *Miller* teaches a UDDI registry that may comprise information and service descriptions. However, *Miller* does not disclose a method that retrieves an instance of the Web service based on the endpoint location. Thus, *Miller* fails to teach the

features of "retrieving an instance of the Web service based on the endpoint location" as taught in amended claim 1. Therefore, *Miller* does not anticipate amended claim 1.

**I.B.      Returning the Instance of the Web Service to the Service Requester**

*Miller* fails to anticipate claim 1 because *Miller* does not disclose "returning the instance of the Web service to the service requester" as in amended claim 1. In rejecting claim 1, the Examiner cites to *Miller* at paragraphs [0040] and [0042], reproduced above.

As discussed above, the cited portion discloses an autonomic proxy querying a UDDI registry to search information according to category. However, *Miller* does not teach a method for retrieving an instance of a Web service, and returning that instance to the service requester. Thus, *Miller* fails to anticipate the feature of "returning the instance of the Web service to the service requester" as taught in amended claim 1.

**I.C.      Dependent Claims**

Claims 7, 8, 10, 11, and 16-17 depend on independent claim 1. Therefore, at least by virtue of their dependence on claim 1, *Miller* does not anticipate these claims.

As shown above, *Miller* is devoid of disclosure of all the features recited in claims 1, 7, 8, 10, 11, and 16-17. Accordingly, the rejection of claims 1, 7, 8, 10, 11, and 16-17 under 35 U.S.C. § 102 has been overcome.

**II.      35 U.S.C. § 103, Obviousness (Claim 2)**

The Examiner has rejected claim 2 under 35 U.S.C. § 103 as being unpatentable over *Miller* as applied to claims 1, 18 and 22 above in view of *Zhao et al.*, Reshaped UDDI for Intranet Use, U.S. Patent Publication No. 2003/0191802, October 9, 2003 (hereinafter *Zhao*). This rejection is respectfully traversed on the ground that *Miller* is not prior art, for purposes of this application, under 35 U.S.C. § 103(c). This statute provides that:

> Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title [35 USCS § 102], shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

MPEP § 2146; 35 U.S.C. 103(c).

*Miller* can constitute prior art only under 35 U.S.C. 102(e). Applicants affirmatively state that *Miller* and the claimed invention were, at the time the claimed invention was made,

owned by the same person or subject to an obligation of assignment to International Business Machines Corporation, Armonk, NY (US). Therefore, *Miller* does not preclude patentability of any claims in this application under 35 U.S.C. § 103.

However, even if *Miller* could constitute prior art, the combination of *Miller* and *Zhao* does not make the claimed invention obvious.

In rejecting claim 2, the Examiner states:

> The method of claim 1 (see rejection for claim 1 supra). Miller fails to disclose "further comprising in response to determining the first element is absent from the registry file, deferring identification of the Web service to a standard naming and directory provider, wherein deferring identification of the Web service includes passing the request to the standard naming and directory provider". However, Zhao discloses "further comprising in response to determining the first element is absent from the registry file, deferring identification of the Web service to a standard naming and directory provider, wherein deferring identification of the Web service includes passing the request to the standard naming and directory provider" ([0055], lines 16-19 and 23-28). Miller and Zhao are analogous art because they are from the same field of endeavor of web services implementation.

Office Action dated November 28, 2007, p. 8.

The Examiner bears the burden of establishing a *prima facie* case of obviousness based on prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). The prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In determining obviousness, the scope and content of the prior art are... determined; differences between the prior art and the claims at issue are... ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. *KSR Int'l. Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007). Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006)). In this case, *Miller* and *Zhao* do not make the claimed invention obvious.

**II.A.  The Proposed Combination of Miller and Zhao Does Not Teach or Suggest All of the Features of Amended Claim 2**

Claim 2, as amended, is as follows:

2.    The method of claim 1, further comprising:

in response to determining the first element is absent from the registry file, deferring identification of the Web service to a standard naming and directory provider, wherein deferring identification of the Web service includes passing the request to the standard naming and directory provider, and wherein identification of the Web service by the standard naming and directory provider further comprises:

locating an additional configuration file;

determining if a service name element is present in the additional configuration file; and

responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file.

The proposed combination of *Miller* and *Zhao*, considered as a whole, does not teach the claimed features of 1) locating an additional configuration file; 2) determining if a service name element is present in the additional configuration file; and 3) responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file.

**II.A.1.  Locating an additional configuration file**

The combination of *Miller* and *Zhao* does not teach the claimed feature of locating an additional configuration file, as in amended claim 2.

In rejecting claim 2 as originally filed, the Examiner cites to *Zhao* at paragraph [0055], which states:

> Referring back to FIG. 5, the system also preferably includes a UDDI wrapper 308. The UDDI wrapper 308 (alternatively referred to as a "service locator" is configured on top of the local UDDI 300 and provides the same set of APIs as the local UDDI 300. Users are preferably required to send a request to the UDDI wrapper 308 rather than accessing the local UDDI 300 directly. Once a user send a request to wrapper API, the UDDI wrapper 308 forwards the request to the local UDDI 300. If the response shows that the service description is in the local UDDI 300, the UDDI wrapper 308 returns this information to the service user who makes the service request. Otherwise, under the predetermined conditions, the UDDI wrapper 308 contacts the public UDDI 310 and returns whatever information it receives. This process is preferably transparent to the service user. Thus, the UDDI wrapper 308 is operatively connected to the local server 300 for forwarding the service request to the local server 300, receiving a reply therefrom, and informing the service user of the results of the search. The UDDI wrapper 308 is also preferably operatively connected to the Internet 202 for forwarding the service request to the Interned 202, receiving a reply therefrom,

and informing the service user of the results of the internet search. Still further, the wrapper is also preferable operatively connected to the external or second database 306 for forwarding the service request to the external database 306, receiving a reply therefrom, and informing the service user of the results of the external database search.

The cited portion discloses a UDDI wrapper that forwards requests from users to a local UDDI. *Zhao* teaches a UDDI wrapper that contacts a public UDDI if the service description is not found in the local UDDI, and returns whatever information it receives. However, *Zhao* does not teach or suggest locating an additional configuration file. In fact, *Zhao* does not address locating configuration files at all. In fact, the Examiner notes on page 12 of the Office Action dated November 28, 2007, that "the combination of Miller and Zhao fails to disclose 'wherein identification of the Web service by the standard naming and directory provider further comprising: locating an additional configuration file." Thus, the proposed combination of *Miller* and *Zhao* fails to teach the feature of "locating an additional configuration file" as in amended claim 2.

### II.A.2. Determining if a service name element is present in the additional configuration file

The combination of *Miller* and *Zhao* does not teach the claimed feature of determining if a service name element is present in the additional configuration file, as in amended claim 2.

In rejecting claim 2 as originally filed, the Examiner cites to *Zhao* at paragraph [0055], reproduced above. As previously discussed, the cited portion discloses a UDDI wrapper that contacts a public UDDI if the service description is not found in the local UDDI, and returns whatever information it receives. However, *Zhao* does not teach or suggest determining if a service name element is present in the additional configuration file. As discussed above, *Zhao* does not even address configuration files. Furthermore, the Examiner notes on page 12 of the Office Action dated November 28, 2007, that "the combination of Miller and Zhao fails to disclose . . . determining if a service name element is present in the additional configuration file." Thus, the proposed combination of *Miller* and *Zhao* fails to teach the feature of "determining if a service name element is present in the additional configuration file" as in amended claim 2.

### II.A.3. Responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file

The combination of *Miller* and *Zhao* does not teach the claimed feature of responsive to determining the service name element exists is present in the additional configuration file,

locating an endpoint location of the Web service based on an address element of the additional configuration file, as in amended claim 2.

In rejecting claim 2 as originally filed, the Examiner cites to *Zhao* at paragraph [0055], reproduced above. As previously discussed, the cited portion discloses a UDDI wrapper that contacts a public UDDI if the service description is not found in the local UDDI, and returns whatever information it receives. However, *Zhao* does not teach or suggest locating an endpoint location of the Web service based on an address element of the additional configuration file. As discussed above, *Zhao* does not even address configuration files. Furthermore, the Examiner notes on page 12 of the Office Action dated November 28, 2007, that "the combination of Miller and Zhao fails to disclose . . . responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file." Thus, the proposed combination of *Miller* and *Zhao* fails to teach the feature of "responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file" as in amended claim 2.

## II.B.    The Proposed Combination of Miller, Zhao, Stelting, and Stawikowski Does Not Teach or Suggest All of the Features of Amended Claim 2

Amended claim 2 incorporates language from claim 3, as presented prior to this Amendment. In rejecting claim 3 as originally filed, the Examiner states:

> The combination of Miller and Zhao fails to disclose "wherein identification of the Web Service by the standard naming and directory provider further comprising: locating an additional configuration file; determining if a service name element is present in the additional configuration file; and responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file."
> However, Stelting discloses "wherein identification of the Web service by the standard naming and directory provider (Co. 7, lines 2-5) further comprising: locating an additional configuration file (Col. 6, lines 44-49, describes a method of service detectors utilizing a variety of techniques for performing look up of web services; Stawikowski, [0017], lines 1-7, further describes method where computer application sends request to remote node requesting WSDL documents describing additional capabilities (configuration) of a web service); determining if a service name element is present in the additional configuration file (Col. 6, lines 52-56); and responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file" (Col. 7, lines 2-8, discloses discovering endpoint location by a number of

methods, including a direct query method). Zhao, Stelting and Stawikoski are analogous art because they are from the same field of endeavor of web services implementation.

Office Action dated November 28, 2007, p.12-13.

The proposed combination of *Zhao*, *Stelting*, and *Stawikoski* do not make the claimed invention obvious, because the proposed combination, when considered as a whole, does not teach the features of 1) locating an additional configuration file; 2) determining if a service name element is present in the additional configuration file; and 3) responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file.

## II.B.1.  Locating an additional configuration file

The combination of *Zhao*, *Stelting*, and *Stawikoski* does not teach the claimed feature of "locating an additional configuration file," as in amended claim 2.

In rejecting claim 3 as originally filed, the Examiner cites to *Stelting* at Col. 6, lines 44-56, which states:

> One or more service detectors 136 are provided to detect and/or locate existing services (and in some cases, Web services) that are available for use in creating a new Web service.  Each detector 136 may utilize a different technique for performing the look up of existing services and may vary with each type of service.  For example, a different detector 136 would be provided for locating enterprise JavaBeans (EJBs), for locating legacy applications, and for searching function libraries.  The look up or identification of available services is preferably performed automatically but may utilize operator input including information on types of services to locate (such as an instruction to only look for EJBs or to look for EJBs and a particular type of legacy application utilizing another programming model) and information on locations of services (such as by providing servers to access or pathing information, e.g., provide an instruction to search one or more of the service providers 108, 116, 160 and the developer system 130 or portions thereof).

The cited portion teaches services detectors provided to detect existing services available for use in creating a new Web service.  *Stelting* discloses locating existing services, such as enterprise JavaBeans, legacy applications, and function libraries.  However, *Stelting* does not teach locating a configuration file.  In fact, *Stelting* does not even address configuration files.

The Examiner also cites to *Stawikoski* at paragraph [0017], lines 1-7, which states:

> A first WEB service discovery step in which a computer application or a development application executing on a remote equipment sends a request on the IP network to receive one or several service description documents in a reply

conform with the WSDL language and describing the capabilities of one or several WEB services.

The cited portion discloses a request to receive one or more service description documents describing the capabilities of one or more web services. *Stawikoski* teaches a request for a description of web service capabilities. However, *Stawikoski* does not disclose, in the cited portion or elsewhere, locating a configuration file. In fact, *Stawikoski* does not even mention configuration files.

As discussed previously, the Examiner notes that the combination of *Miller* and *Zhao* fails to disclose locating an additional configuration file on page 12 of the Office Action dated November 28, 2007. Furthermore, neither *Stelting* nor *Stawikoski* cure that deficiency because the cited art fails to disclose configuration files. Thus, the proposed combination fails to teach or suggest "locating an additional configuration file" as claimed in amended claim 2.

### II.B.2. Determining if a service name element is present in the additional configuration file

The combination of *Zhao*, *Stelting*, and *Stawikoski* does not teach the claimed feature of "determining if a service name element is present in the additional configuration file," as in amended claim 2.

In rejecting claim 3 as originally filed, the Examiner cites to *Stelting* at Col. 6, lines 52-56, reproduced above. As previously discussed, *Stelting* discloses locating existing <u>services</u>. However, *Stelting* fails to teach or suggest locating <u>configuration files</u>, much less determining if a service name element is present in a configuration file. Thus, the proposed combination fails to teach or suggest "determining if a service name element is present in the additional configuration file."

### II.B.3. Responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file

The combination of *Zhao*, *Stelting*, and *Stawikoski* does not teach the claimed feature of "responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file," as in amended claim 2.

In rejecting claim 3 as originally filed, the Examiner cites to *Stelting* at Col. 7, lines 2-8, which states:

The location of services may include the service detector 136 querying a standardized naming or registration service (such as Java Naming and Directory Interface (JNDI) and similar services), using a direct query method (such as Java reflection and the like), or using a direct specification of a service provided by the operator. In some embodiments, the service detector 136 would be adapted to allow users via the user interface 132 to perform a test query to verify that the service provider system 108, 116, 160 (or developer system 130) was accessible by the operator and that the services being located were available for use.

The cited portion discloses locating <u>services</u> using a direct query method. *Stelting* discloses using different methods to locate services. However, *Stelting* does not disclose locating an endpoint location of the Web service based on an address element of a configuration file, where *Stelting* does not even mention configuration files. Thus, the proposed combination fails to teach or suggest "responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file."

## II.B.4. The Examiner fails to state a sufficient reason to modify the reference

Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006)). In the case at hand, no *prima facie* obviousness rejection can be stated because the Examiner failed to state a sufficient reason to modify *Miller* in view of *Zhao*, *Stelting*, and *Stawikoski* in light of the great differences between the cited art and amended claim 2. Specifically, as shown above, *Miller* in view of *Zhao*, *Stelting*, and *Stawikoski* fails to teach or suggest the features of 1) locating an additional configuration file; 2) determining if a service name element is present in the additional configuration file; and 3) responsive to determining the service name element exists is present in the additional configuration file, locating an endpoint location of the Web service based on an address element of the additional configuration file.

The Examiner failed to state a sufficient reason to modify *Miller* in view of *Zhao*, *Stelting*, and *Stawikoski* because the Examiner's proposed reason for modifying the cited art provides no rational underpinning to support a legal conclusion of obviousness. Regarding a reason to modify *Miller*, the Examiner states that:

> At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the method, system and computer program product on a medium for locating a web service (as taught by Miller and Zhao) to include implementation of a standard naming and directory provider as taught by Stelting and Stawikoski because Zhao teaches the importance of extending web service searches to include aggregate results from multiple services in order to extend search capability.

Office Action dated November 28, 2007, p. 13.

The Examiner offers an advantage as the stated reason for modifying the teachings of *Miller* in view of *Zhao*, *Stelting*, and *Stawikoski* in the manner proposed by the Examiner. Specifically, the Examiner proposes modifying the cited art because Zhao teaches the importance of extending web service searches to include aggregate results from multiple services in order to extend search capability. However, the Examiner fails to provide a sufficient reason to modify *Miller* in view of *Zhao*, *Stelting*, and *Stawikoski* because the Examiner merely offers a possible advantage for the modification without providing any reason for the modification. In particular, the Examiner does not provide any reason for modifying *Miller* in view of *Zhao*, *Stelting*, and *Stawikoski* to extend web service searches to include aggregate results from multiple services in order to extend search capability where neither *Miller*, *Zhao*, *Stelting*, nor *Stawikoski* teach or suggest all the features of amended claim 2. Thus, the Examiner's reason for modifying *Miller* in view of *Zhao*, *Stelting*, and *Stawikoski* provides an insufficient basis for modifying the teachings of the cited art in the manner necessary to reach each and every feature of amended claim 2, especially in the light of the large differences that exist between *Miller* in view of *Zhao*, *Stelting*, and *Stawikoski* and amended claim 2.

For these reasons, the rejection of obviousness vis-à-vis amended claim 2 has been overcome.


**III.    Conclusion**

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.


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Respectfully submitted,


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